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AMERICAN VETERINARY REVIEW,

JULY, 1885.

EDITORIAL.

VETERINARY SANITARY SERVICE—QUARANTINE STATIONS.

Sanitary veterinary science, as recognized in the United States, can scarcely be said to have passed its infancy, and no one need be surprised at the immaturity of its development. It is comparatively but a recent period since our people have learned to appreciate the dangers of contagious diseases amongst our cattle, dangers not alone affecting our own nation, but involving other nationalities as well. Our experience is therefore so new in the use of means for counteracting these dangers, and our attempts to organize and apply the proper veterinary assistance so imperfect and so partial, that the most sanguine expectations can scarcely hope to find at this early date, a veterinary sanitary service which can be compared to similar organizations as they exist in the older European countries; those, for example, of England, France and Germany. The country has, however, been obliged to take some action on the subject, and several attempts to accomplish some useful results have been made, notably by the Treasury Cattle Commission, and the Bureau of Animal Industry. These have been most prominent in the movement, and the quality of the work they have done is now indicated in records, which the reader can consult and study for himself.

One of the new measures instituted by the Treasury Cattle Commission is the formation of quarantine stations, and there can be no doubt that the gentlemen in charge of this portion of the work have exercised their best judgment, and availed themselves of the best means at their command, after acquiring, in Canada as we know, and perhaps in Europe also, all the information accessible to their inquiries.

Quarantine work is undoubtedly one of the most important of all the various incidents of sanitary medicine. If carried properly into effect, it includes the accomplishment of entire and perfect immunity from infection by contagious disease, certified by an absolutely clean bill of health, and it involves the necessity of vigorously correct arrangements, and the employment and work of thoroughly qualified scientific employes, with power and will to carry into effect the most severe and effective of executive measures, when necessary.

In reference to the quarantine stations which have been established, certain pertinent queries may be ventured. Have they accomplished all that has been desired or expected from them, and has there been no disappointment in respect to practical results? Has their organization been reasonably perfect and complete? Has the work they have actually accomplished fully met the contingency for which they were established?

All these are questions which not only the veterinary profession will ask, but which also concern the public at large, and especially that portion of it whose interests are extensively involved with those of the numerous parties engaged in cattle raising. The Wyoming Cattle Growers' Association have adopted the measure best calculated to satisfy themselves upon this point, in organizing a tour of inspection by the Territorial Veterinarian. This gentleman, Dr. J. D. Hopkins, has performed his work and presented his report. Having kindly forwarded a copy to us, we publish it to-day, as coming from one whose experience and active observation, together with his well known impartiality, must impart great value to his statements, and commend his conclusions as worthy of a high degree of consideration. The Doctor finds much that is objectionable in what has been done, and if

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the failure that has followed the efforts to prevent the importation of foot and mouth disease, or the spreading of contagious pleuro-pneumonia is taken into consideration, the necessary conclusions must follow that much, if not all, still remains to be done, in the organization of a genuine veterinary sanitary service.

PROGRESS IN OPERATIVE SURGERY.

The progress which scientific operative surgery has made in veterinary medicine since the period when the publication of works on surgical manipulations became more general, has naturally led to the performance of more *heroic* operations than were undertaken for years before. It is in this way that the removal of large goitres, of enormous tumors of all kinds, and many others, have found their way into the ordinary manipulations of practice, and the current records of cases. In a recent communication to the Société Centrale de Médecine Veterinaire (France), a case is reported, which, though not unique of its kind, is nevertheless worthy of serious consideration and study. It is that of the entire removal of the navicular bone, as a consequence of a fracture and necrosis, resulting from a punctured wound. The animal made a comparatively good recovery, and was soon able to resume his work.

We have received from one of our correspondents a note referring to a still more wonderful result, for he reports not only the entire removal of *the navicular bone, but also of the os pedis*, in a valuable thoroughbred mare. It is unnecessary to say that by the exercise of a little generosity the report can be accepted as possibly relating to a portion of the os pedis being removed with the navicular, but certainly not beyond that. The removal of the small sesamoid is by itself a very rare and successful operation. But if complicated with necrosis of part of the os pedis the chances of recovery are very small. But when it comes to a question of the entire third phalanx, there must be an error in the reports, notwithstanding the affidavits of parties undoubtedly honest, but certainly incompetent to judge, with which it is fortified.

CONTAGIOUS PLEURO-PNEUMONIA AND STATE VETERINARIANS.

The subject of contagious pleuro-pneumonia continues to be an interesting one for our western exchanges. And now, added to the reports of new outbreaks at various points, and to the probably exaggerated rumors of its reappearance in Pennsylvania, there is another item, which is of special importance to the veterinary profession. It is contained in a statement in which the honesty of one of our confreres is badly impugned. If our western friend speaks truly, a prominent veterinarian, holding, indeed, a high official position in his own State, with a handsome salary attached to it, has been guilty of a flagrant attempt at imposition in demanding or soliciting a fee for services for which he had already been paid by the State. The charges, moreover, go so far as to allege such an act of trafficking and dickering as the gradual reduction of his original demand of \$200 until it had dwindled down to one-tenth of that amount, or \$20, in full satisfaction of his claim for \$200. He is also charged, in a similar case, with reaching for a mere moiety of the minimum amount previously solicited, and consenting to accept a \$10 fee in similar conditions.

This is quite too serious a charge to be overlooked, and the gentleman against whom the accusation is brought owes it not alone to himself individually, but to the profession to which he belongs, emphatically to refute it. We have no doubt that he will promptly do so.

This subject suggests another important question in relation to the enforcement of sanitary laws in various States. If a clean bill of health is to be required for a lot of cattle going out of every State through which they may have passed, or in which they may have stopped, before reaching their final destination; and if a fee is to be paid for such a certificate, cattle dealers will certainly be exposed to frequent, unnecessary and unjust expense. Cannot this be obviated? We see no reason why it should be allowed to continue. Let us have national legislation on the subject, and let us have State veterinarians subordinate to the national organization. Let us have what we never yet have had, a na-

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tional sanitary veterinary service, bureau, organization, or whatever may be its title, in which all veterinarians may be associated, with special powers, under a general national board, but all derived from the central headquarters. And let it be so arranged that the remuneration received by those who are employed be such that, their time and service being given entirely to the performance of their public duties, no other or extra fee could be expected or lawfully received by them.

VETERINARY LEGISLATION IN THE STATE OF NEW YORK.

The Legislature of the State of New York has adjourned, and notwithstanding all the favorable reports, the great expectations and the fair promises in the matter, the bill providing for the protection of the practice of veterinary medicine in the State was not passed. Almost another year must elapse before another attempt can be made. There seemed to be no important objections urged against the bill, which had been duly reported by the committee to which it had been referred, and to all appearances this new failure is due to the mismanagement of friends more than any other adverse cause. There has been on the part of those who were intrusted with the bill, and who had to the last moment made flattering representations of its chances of success, a lack of attention and a culpable neglect of the interests which they had promised, and for which they had been paid, to watch. It is to be hoped that next year the veterinarians of the State of New York will be more successful in gaining friends for the measure, and more fortunate in the selection of its advocates in and out of the lobby.

LEGISLATION AGAINST CONTAGIOUS DISEASES OF ANIMALS IN COLORADO.

We have received from State Veterinarian Dr. Geo. C. Faville, of Colorado, a copy of the laws relating to contagious diseases of animals in that State. We publish an extract from them in the present number. The documents relating to the progress of this

subject in the various States will in future years serve a valuable purpose in completing the history of veterinary medicine in this country. We have already published a number of similar papers, and will be thankful to our readers for any others on the same subject that may have escaped our attention.

NOTICES.

The following postal has been received :

DEAR DOCTOR—Please send my copy of the *REVIEW* to me at Casino Boarding Stables, 43 Bath Road, Newport, R. I.

As the writer has omitted to sign his name, we are at a loss to know to which of the boarders at the place of entertainment he mentions to direct it. Whichever of them he may be, will he be kind enough to make himself known?

On account of the expected absence of Dr. Liantard, who is contemplating a short visit to Europe, the August and September numbers of the *REVIEW* will be published together in the latter month.

ORIGINAL ARTICLES.

REPORT ON QUARANTINE STATIONS.

By J. D. HOPKINS, D.V.S., Territorial Veterinarian.

Hon. Thos. Sturgis, Secretary National Stock Growers' Association, Chicago, Ill.:

SIR:—Agreeable to your instructions, I have examined the cattle quarantine stations at Quebec, Portland, Boston, New York, Philadelphia and Baltimore, and herewith present for your consideration diagrams of the buildings and yards; their capacity, area of stations and locality; number of cattle quarantined in each station during the past year; manner of business; rules and regulations; how cattle are transported from ship to station and expense thereof; precautions taken for the prevention of the

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spread of contagion among the cattle at the station and surrounding country; the number of employes at each station, their duties and salaries; also, letters from eminent veterinarians commenting on the service.

During this investigation I have been received with courtesy by the officials in charge of the different stations, and every facility afforded me in the inspection of buildings, yards, cattle in quarantine and an explanation of their manner of business. I am greatly indebted to Dr. Conture, Superintendent of the Quebec quarantine station, and Dr. Baily, State Veterinarian of Maine; and desire to call your attention to letters herewith submitted from Dr. Williamson Bryden, of Boston; Prof. Chas. P. Lyman, of the Harvard Veterinary College, Boston, Mass.; Prof. Liattard, of the American Veterinary College of New York, and Dr. Gadsden, of Philadelphia, Penn. These gentlemen have had a wide experience in contagious diseases of cattle, and their comments on the sanitary measures adopted by the Federal authorities for the prevention of contagion and on quarantine stations, will prove instructive and interesting.

In 1875 the Dominion of Canada enacted laws prohibiting the importation of cattle from England, because of the prevalence of pleuro-pneumonia and foot and mouth disease among their cattle.

This prohibition proved detrimental to the interests of the Canadian stock growers, and in the following year was modified by imposing a quarantine of eight days on all cattle imported from Europe. In 1879, the period of quarantine was extended to ninety days, counting from the date of leaving Europe.

The grounds selected for the quarantine station are at Point Lewis, opposite Quebec, and cover one hundred acres, divided into thirty-two yards with suitable buildings, which furnish stalls for one thousand cattle; also yards for sheep and swine.

Shippers are required to notify the quarantine authorities by telegraph twelve hours in advance of their arrival at the city, when they have cattle on board. The cattle inspectors examine the cattle on the ship; transfer them to the yard; disinfect the ship, and remove the manure to a safe place. If disease is found

among the cattle on shipboard, such cattle are taken in vans to the yards, and the ship, after disinfection, is not allowed to load cattle for thirty days.

During the past year ten herds of cattle (300 head) arrived at Quebec from England suffering with foot and mouth disease.

Four of these herds (139 head) were consigned to parties in the United States. Thanks to the rigid enforcement of the rules and regulations, as well as the admirable sanitary condition of the station, no contagion spread from the infected herds. This station is surrounded with a high board fence, and the alleys are kept clean and always disinfected after having been used. Importers' men are allowed to care for their cattle, provided they conform to all rules of the station. No visiting among the herds-men is permitted. In case of sickness among the cattle, the superintendent will prescribe. Men in charge of cattle must keep a suit of clothes at the superintendent's office for use when outside of yards. If importers' men fail to observe the rules in regard to cleaning the buildings, feeding cattle, etc., the superintendent will have it done at the expense of importer. Manure is removed daily from buildings and yards, and not allowed to leave the station until disinfected and exposed to the frosts of winter. Any person disobeying rules of the station is subject to arrest. Importers are allowed to buy feed for their cattle in the market at lowest rates.

The superintendent has charge of everything, and he keeps a daily record of any sickness, birth or death; what men are employed, and by whom; also their duties. He examines the cattle daily; attends to the disinfection of ships, yards and buildings. Salary, \$800 per year.

A foreman resides at the station and superintends the men, guards the cattle and carries out orders of the superintendent. Salary, \$600 per year.

An average of fifteen laborers is employed in keeping this station in a good sanitary condition.

Prof. D. McEachran is the inspector in chief, and his duties are a general supervision of the station and attendance in urgent cases. Salary, \$1,500 per year.

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At the expiration of quarantine of a herd, they are washed with a weak solution of carbolic acid (1 to 100) and water; all implements are disinfected; the men's clothes are fumigated; the sheds are scraped, washed, fumigated, ventilated, and then white-washed. Bags and halters are retained until after exposure to frost before delivery.

The number of cattle quarantined during the year 1882, 1,209; 1883, 1,867; 1884, 1,607. 1,276 of the cattle quarantined in 1884 were consigned to parties in the United States.

The quarantine station for the port of Portland, Me., is located at Deering, three miles out on the Grand Trunk Railroad, and covers ten acres. There are four buildings, which furnish stalls for one hundred and thirty-five head of cattle. Each barn has a yard of about one acre fenced in.

When this station was established, the Grand Trunk Railroad agreed to transport all cattle arriving at Portland from the ship to the quarantine station, but the Canadian authorities forbid the company to use their cars for this purpose and, as this railroad is under their jurisdiction, they were obliged to obey! Rather odd that the Canadian sanitary laws should extend into the United States; but it is simply another proof that our neighbor is fully alive to the necessity of closing every avenue by which contagion might be imported.

This station is located in one corner of Mr. Shattuck's two-hundred-acre farm and adjoins the public road, and in the midst of a farming district. There is no fence to protect the quarantine from an inquisitive public, or the neighbors' cattle, in the event of a contagious disease being developed in the herds held in this place.

In consequence of the laws of Canada preventing the Grand Trunk Railroad from transporting cattle from ships to the quarantine station, all animals arriving at Portland are obliged to walk over the public highway three miles. The danger from this neglect of sanitary precaution was deeply impressed on the people when, by the arrival, February 2d, 1884, of the steamship "Ontario" from England, a herd of twenty-eight Herefords spread foot and mouth disease to five dairy herds. Very fortu-

nately, the State of Maine was equal to the emergency, through the prompt action of Dr. Baily, State Veterinarian, in the enforcement of quarantine of all herds in that locality. The quarantine, disinfection, treatment of sick cattle and consequential damages paid to the owners of infected herds, cost the State of Maine nearly \$5,000.

Mr. E. F. Thayer, of Boston, is superintendent, and Mr. Shattuck, owner of the farm, is foreman of this station. Dr. Baily's letter in regard to this station is of much importance.

The quarantine station for the port of Boston, Mass., is located at Waltham, seven miles out, on the Fitchburg Railroad, and covers fifty acres. Its twenty-five sheds and yards furnish stalls for six hundred and fifty cattle.

During the past year 2,208 head of cattle arrived at this port, 256 of whom were quarantined on farms outside of the station, or taken to importer's farm direct from the ship on arrival. Cattle are conveyed from ships to the quarantine station by the Fitchburg Railroad, at a cost of \$14 per car to the importer.

This station has no fence on the north side.

Dr. M. Bunker, superintendent; salary, \$1,500. Mr. Sidney, foreman; salary, \$600. Laborers are employed as required. Rent of station \$1,000 per annum and manure to owner of farm. The annual running expenses of this station is about \$4,000.

The quarantine station at the port of New York is located at Garfield, N. J., fourteen miles from the city, on the Erie Railroad, and covers forty acres. Its twenty-four sheds furnish stalls for six hundred and eighty head of cattle. During the past year 1,735 cattle arrived at this port. Cattle are transported from the ship by a barge (furnished by the Erie Railroad) to the Erie Railroad wharf in Jersey City, thence by cars to station. The service of the barge cost \$10, and cars \$10 each, which the importer is obliged to pay. This station is fenced. During the past year this station has been overcrowded, and in some instances cattle have been discharged from quarantine ten to thirty days before the period of quarantine had expired! Other herds arriving in New York have been quarantined at Syracuse, N. Y., Eatons Neck, L. I., Staten Island and Morristown, N. J., by order of the Secretary of the Treasury.

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Dr. A. M. Farrington, superintendent, salary, \$1,500; and a foreman, \$750; two laborers, each \$600; rent of station \$1,000 per annum; manure sold by the government.

I am informed by Mr. Bridge, State Veterinarian of Pennsylvania, that about three hundred head of cattle arrive annually at Philadelphia, and that these cattle are quarantined at the farms of the importers!

Importers give a bond in twice the value of their cattle to faithfully isolate their importations, etc. Mr. Bridge examines the cattle on arrival and at expiration of quarantine, for which service he is paid by the Commissioner of Agriculture, Washington, D. C.

The quarantine station at the port of Baltimore is located at Relay, seven miles from the city, on the Baltimore & Ohio Railroad. This station covers fifteen acres of railroad land, and its fifteen sheds furnish stalls for six hundred and forty-five head of cattle. Cattle are transported from the ship to quarantine station by the Baltimore & Ohio Railroad at \$6 per car, which the importer pays. During the past year seven hundred cattle arrived at this port.

Dr. A. M. Rose, superintendent, salary, \$1,500; foreman, \$600; rent of station \$225 per annum.

I have given in detail a description of the manner in which the quarantine business is conducted at Quebec, and desire to call your attention to the printed copies of rules and regulations enforced there; also a copy of the plan of buildings and yards.

Congress appropriated \$50,000 in the spring of 1882 for the establishment of quarantine stations for the reception of all cattle arriving from Europe at the ports of Portland, Boston, New York, Philadelphia and Baltimore, and the work was entrusted to the Treasury Cattle Commission, composed of Prof. James Law, Mr. E. F. Thayer and Mr. J. H. Sanders. These gentlemen visited Quebec in August, 1882, with a view to improve their experience in this particular business by an examination of the Canadian system, so that they might give to the United States an improved service.

The selection of the locations for the quarantine stations in

this country has been most unfortunate, from the fact that in each case it involves an addition expense to the importer in conveying his cattle from the ship to the quarantine station, while at New York and Baltimore importers are forced to convey their cattle through and keep them in a locality where it is well-known that contagious pleuro-pneumonia exists among the native stock.

At these stations no guard is kept to prevent visitors, or visiting between the herdsmen employed in the care of the cattle. No laborers are employed to daily remove manure from the yards. This work is done after the discharge of a herd; or once in three months. At the New York station, the space between the yards (eighty feet) is utilized to store manure until it can be sold. Most excellent rules and regulations are printed and posted in conspicuous places, but moral suasion is depended on for their enforcement. Importers' men do as they please—come and go without let or hindrance, and would in the event of a contagion being developed, convey the contagion in their clothes.

To illustrate the loose manner in which the United States quarantines are being conducted, allow me to cite Mr. E. Burnett, importer and breeder of Jersey cattle, Boston, Mass. He says: "A herd of valuable cattle were held in quarantine at Waltham, Mass., and when within a few days of being discharged, another had arrived. In this second herd there was a cow in season, which was served by a bull from the first herd !

The discharge of cattle from the New York station before the period of quarantine has expired to make room for incoming herds, is a gross injustice to both parties: 1st. It is an acknowledgment by our authorities that they have no faith in the necessity of isolation of herds coming from foreign infected countries; and 2d. It is unjust to put fresh animals in yards and buildings not properly cleaned and disinfected, which might be productive of disease.

Again, the quarantine of cattle on importers' farms at New York and Philadelphia is an unjust discrimination, which enables certain dealers to undersell their competitors in the trade, because of the reduced expense of keep during the three months isolation; and in the event of any contagious disease being developed, the danger of it spreading to neighboring cattle is very great.

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These irregularities in the quarantine of cattle at Philadelphia and New York have been widely criticised by importers, who, being without "influence," were obliged to undergo all the vexation and expense of a quarantine, admitted by all to be little better than a farce.

The plan by which the yards were built is decidedly objectionable, from the fact that cattle to reach the yards, or going from the yards, must pass through the same alleys, and be loaded or unloaded on cars from the same chutes. Another objection is that the buildings are on the line fence of the yards, instead of being placed in the middle of the enclosure.

No attention is given by the quarantine authorities as to the removal of manure or disinfection of ships after cattle have been discharged from them.

The importation of fine cattle from Europe has done much to improve our native herds and increase their value, but the existence of contagious diseases in different parts of the Old World, and the ease with which they are transported in the avenues of commerce, makes it an absolute necessity, if we would ensure our property in the stock industry, that the United States authorities shall prescribe the conditions under which foreign cattle may enter this country. And it is right that our government should take charge of all cattle coming from infected countries and hold them until, by lapse of time, it is proved that they do not harbor the germs of disease. Then safety should be ensured by the most restrictions on the movements of all employes connected with cattle in the yards, and the enforcement of sanitary measures should be under the supervision of expert veterinarians. The accommodations furnished by the government for the valuable importations entrusted to their care should be ample and above reproach. It is to be regretted that in the creation of these quarantine stations, "parties," instead of science, was the chief consideration, and that their continued mismanagement has forced importers to bring their cattle in by way of Canada.

I would respectfully suggest that the importation of cattle shall in the future only be allowed at two ports—New York and Boston; and that the entry of cattle at all other ports of the

United States shall be prohibited; that cattle entered at these ports shall not be "permitted" until *after* the period of quarantine prescribed by law.

That the quarantine stations shall be made "bonded warehouses," and the veterinary superintendent "storekeeper."

That the Collector of the Port shall have control over quarantine stations as over any other bonded warehouse.

That the "storekeeper" shall attend to conveying cattle from ship to station; disinfect the ship; remove manure to a safe place; employ men to guard the cattle in quarantine; to clean and disinfect station; to enforce the rules and regulations, and be responsible to the Collector for all matters pertaining to quarantine station and cattle.

That the stations at present in New York and Boston be removed to a suitable locality, with water front, that cattle may be landed directly on quarantine ground.

That a sufficient appropriation be made by Congress to carry out the quarantine regulations.

DISEASES OF THE HEART IN DOMESTIC ANIMALS, ESPECIALLY THE HORSE.

BY FR. BLAZEKOVIC.

(Translated by J. C. Meyer, Sr., V.S.)

I.—ANATOMICAL-PHYSIOLOGICAL REMARKS.

GENTLEMEN.—The diseases of the heart are more frequent among the domestic animals than has heretofore been supposed, and many a diagnosis, which has been attributed to other organs of the chest, proves upon close examination, to be an affection of the heart. Innumerable heart diseases are wholly overlooked, especially in practice, where one is not able to investigate, by means of a post mortem examination, the correctness of the diagnosis. I remember to have read in one of the older veterinary pathological works, "that it is of no consequence if the diagnosis of the diseases of the chest be not minutely located, which organ of the chest or which part suffers especially, as the treatment is

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the same." Not taking into consideration that such an expression ought not to be found in a work on professional science, it leads the practitioner to culpable negligence and superficiality, which cannot be vindicated, for a special ailment is difficult to diagnosticate. The unitary therapeutics is in this case a model, which is absolutely rejectable.

The heart diseases among domestic animals are most difficult to diagnosticate, nevertheless it is possible to determine the affections of the heart, if one considers all the elements which influence the formation of the affection. It is self-evident a precise consideration of the anatomical, physiological and functional conditions of the heart and the vessels in the normal state is presented, in order to draw a conclusion and a comparison with the abnormal state.

The organism should be an open book before the eyes of the professional man; for a minute deliberation of all the contributing factors in the function of the heart is a *conditio sine qua non* to a diagnosis of the affections of the heart.

I shall therefore endeavor, in the first place, to bring forth all those moments in the functions of the heart's mechanism, which are necessary to the diagnostic fulcrum, and shall, in order to avoid repetitions, confine myself to such arguments only which can suggest such fulcrums.

We shall now pay attention to the normal heart and its functions of a healthy animal.

The heart appears as a hollow muscle freely suspended from the great vessels, the veins and arteries, in the cavity of the chest, and attached by the pulmonary arteries and veins to the lungs, and by the posterior vena cava to the diaphragm. It represents a slightly compressed one freely suspended in the pericardium, with its blunted point on a level with the fifth rib or somewhat behind it, and its base tapering almost circularly under the third to the seventh dorsal vertebræ. The position is by no means to be overlooked, for the slightest deviation must necessarily call forth manifold disturbances of the functions. In consequence of the muscular quality the heart is subjected to all those processes which are common to the muscles. The heart receives its blood

for the nourishment of its substance and the maintenance of its functions through the arteries, originating in the aorta, namely, the right and left coronary arteries. The veins which carry the blood back are the two opening directly into the right auricle.

Another important moment of consideration is the connection of the pericardium with the muscle of the heart. The similarity of the serous parts of the pericardium with the function and construction of the membranes of the organism is of diagnostic significance.

The proportion of weight of the muscle of the heart to the remaining organism varies from one hundred and three to one hundred and seventy-one parts of the entire weight of the body. The heart of horses of one weight does not always weigh the same; it can easily vary to double its size without being atrophied or hypertrophied. In fact, it is larger in thoroughbreds and nobler animals than in common types; a circumstance which ought not to be ignored in reference to the action of the heart.

Particular attention should be given to the diagnosis of the interior lining of the cavity of the heart, the position and construction of the valves and heart valves. The continuation of the inner membrane, which forms the endocardium, is also worthy of attention. The structure of the muscle of the heart, mechanically considered, is of eminent diagnostic interest. The auricles, the point of attachment of the aorta valves, the construction of the fleshy parietes, as also the strong carneous columns on the partition of the auricle at the opening of the posterior vena cava, the tubercle of Lower, which influences the mechanism of the heart, are important. The structure of the thebesic valves is of particular importance to the function of the coronary veins. Furthermore, the construction of the heart valves in the chambers, the auriculo-ventricular, the tricuspid and the semi-lunar valves, are to be considered, which in their changeable effect upon the action of the heart, are of vital importance. In the left ventricle the bicuspid valves and mitral valves, with their strong tendons, are noteworthy.

The anatomical construction also corresponds to the function of the heart, whose final aim it is, on the one hand to convey

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vital and nutritious material with the blood to the whole organism, on the other hand to oxydize the previously carbonized blood of the organism through the lungs. The procedure of this process, which is mechanically very complicated, occurs in the following manner:

The action of the heart is explained by two movements, which follow upon one another in regular rhythm. These rhythms, by the active drawing together of the muscular walls, cause contraction of the heart's cavities—systole; and the passive by the relaxation of the muscle of the heart cause expansion of the cavities—diastole. But systole and diastole cannot occur simultaneously in all four cavities of the heart, as the muscles of the ventricles and auricles do not stand in immediate connection, but are separated by the auriculo-ventricular valves. The systole begins at the same time and with the same energy in the two auricles, in order to end simultaneously; it begins at the orifice of the veins and continues forward to the auriculo-ventricular opening; at the same time the ventricle is in a diastole condition. The impulsive force of the auricle is not very great, nor does it require much force; the blood conveyed through the veins, which the impulsive force pumps into the cavities, could reach its destiny without special pressure. Immediately after the systole of the auricle, the systole of the ventricle commences simultaneously and with energy in all parts of the walls of the ventricle. The contraction (systole) of the ventricle lasts somewhat longer than that of the auricles and collapses with its diastole. The diastole of the ventricle follows quickly upon its systole before the systole of the auricle commences; or during a very short time the four cavities of the heart are in a state of relaxation as if for recovery. Thereupon a contraction of the auricles takes place, and the rhythm of the heart's movements takes its progressive course.*

Accordingly there are three tempii of the rhythmical action of the heart to be distinguished. They follow one another in rapid succession: 1—Tempo; systole of the auricle, diastole of the ventricle. 2—Tempo; diastole of the auricle, systole of ventri-

* Cf. Müller, *Function des Herzens*.

cle. 3—Tempo; diastole of the four cavities, relaxation, pause.

This is a short moment of rest in the continual action of the heart, which is, however, indistinct and hardly perceptible.

Chauveau and Marey have graphically represented the rhythm of the action of the heart by means of an apparatus which they applied on horses, connecting the right ventricle through the jugular vein. The knowledge of the variation of pressure is of eminent importance for the diagnosis of heart disease.

Whereas, the systole is noticed in all the cavities of the heart by a sudden and convulsive contraction of the muscular walls; the diameter of the ventricle appears to be shortened during systole, and the heart becomes more round, while during diastole it is oval. During this procedure the form and position are therefore changed, inasmuch as the heart turns from left to right upon its longer axis. The apex of the heart rises somewhat from the sternum, approaches the base of the heart, and is stationed under the centre of the latter. Through the now accomplished relaxation of the muscular fibres the diastole is noticed in all the cavities of the heart. The muscles do not retain their acquired shortness caused by the active contraction, but again assume the length which they had before the contraction. Furthermore, the enlargement of the relaxed chambers is supported by the pressure which the blood, forced into the ventricle, exercises during the systole of the auricle.

(*To be continued.*)

CONTAGIOUS PLEURO-PNEUMONIA.

Thesis presented by W. ZUILL, D.V.S., before the University of Pennsylvania, Medical Department.

(*Continued from page 107.*)

This disease, being one in which the lesions are entirely confined to the chest cavity, the pleura is naturally the only serous membrane from which effusion takes place, and here they are most marked, as it is most uncommon to find a large collection of fluid in this place, which seriously complicates the disease. This

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fluid is of a viscid yellow color, full of albumen, and coagulates on exposure to air; its quantity is in direct ratio with the amount of lung tissue involved, and is never absent in any case. The cause of this great effusion is due to the mucous congestion which occurs in the inflamed serous membrane. The pleura is inflamed, swollen and thickened, often to an inch or more. The microscopical preparations which I made while fresh showed this thickening to be due to a large deposit of fibrous exudation, heavily charged with lymphoid cells, partly organized and partly soaked or infiltrated by serum, which produced an enormous œdema of this new formed tissue, as well as of the sub-endothelial connective tissue of the pleura proper, so that sections could only be made by means of the freezing microtome. If put in alcohol, the membrane shrunk very much, and thin sections examined under the microscope presented nothing else than a dense fibrilar mass. The liquid when examined under the microscope shows few cellular elements, these being represented by some desquamated endothelial cells, usually fatty, degenerated and some leucocytes. Examination of one of the numerous flakes found suspended in the serum showed them made up of leucocytes, fibrine and multitudes of micrococci. The inflammation first starts in the mucous membrane of the smaller bronchia and air vesicles, which are irritated by the *specific virus* taken in through the respiratory tract. This irritation sets up an inflammation, the product of which is a true croupous exudation, which produces occlusion of the affected vesicles and bronchules, from which the inflammatory product spreads rapidly by means of the lymphatic circulation, which has an extraordinary development in this class of animals. By means of this remarkable lymphatic development in the lungs of the ox tribe, the irritation readily reaches that part of the pleura which is immediately over the seat of the original inoculation, and when once this is established it spreads with amazing rapidity, not only over the sound portion of the lungs, but also by contiguity of tissue to the pleura costalis. When this has taken place the sound portion of the lungs is involved in two directions, centrally and superficially; that is to say, by the broncho-vascular lymphatic circulation, and from the pleura downward into the substance of the

organ, by means of the interlobular and subjacent lymphatics, which are situated within the interlobular connective tissue, thus surrounding the entire lobule; these interlobular lymph spaces are filled with a clear exudation or semi-gelatinous fluid, which gives such a characteristic appearance to this part of the diseased organ. Those distended lymph spaces surrounding a healthy lobule soon cause in it a pneumonia, the product of which is a true croupous exudation, which, filling up the entire lobule, produces what is known as hepatization. On post-mortem examination, these lobules are seen in the various degrees and stages of hepatization, which contrasts strongly with the infiltrated interlobular connective tissue in color, giving that beautifully marked and characteristic appearance known as marbling. With regard to the microscopical appearance of the diseased organs and their containing cavity, it will be seen that the lung is enormously distended by means of the inflammatory product, often to several times its normal size, frequently weighing from sixty to seventy-five pounds. The boundary between the diseased and healthy tissue is very abrupt and well defined. The borders of the diseased organs are rounded off, their angular contour being lost. The pleura is very tense, thickened, and appears as if covered with whitish granulation; beneath its surface may be seen cysts or blebs of lymph and serum, from over-distention of the lymph spaces. The lobules and interlobular connective tissue can be plainly seen through the pleura. The diseased tissue offers little or no resistance to the finger, which passes into the substance of the diseased lung with great ease, showing complete degeneration of all the tissues of the organ. A more or less thin section of such tissue will break with a short fracture. In advanced stages of the disease, the surface of the pleura is covered with organized lymph of variable thickness. The macroscopy of the internal aspect of the chest cavity is similar in many respects to that of the visceral pleura, in which the costal pleura is seen to be very much thickened, as in the former case, and covered by fibrous exudation similar to that already described as covering the lung. Beneath this membrane we have a well-marked œdema neonatorum, forming blebs and sacks of lymph, as in the other case. On this account the

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pleura can be readily stripped from the chest walls, and this is taken advantage of by unscrupulous and dishonest butchers, who will remove this thickened and infiltrated tissue, scrape the ribs, and sell the meat as sound. While at the same time it is not probable, or I may say, even possible, that this disease can be produced in man; yet it is nevertheless true that such fevered flesh cannot be, and is not, wholesome and nutritious food, and such should be strictly prohibited by the legal authorities; as, on account of its probable cheapness, this food would be consumed by our most exposed, hardest worked and worst fed classes, whose constitution, physical condition and hygienic surroundings do not fit them to withstand the ravages of disease, and hence, such improper food would be more liable to produce in them conditions not at all conducive to perfect health.

(To be continued.)

• INFLAMMATION.

By E. MINK, V.S.

(Continued from page 111.)

I now proceed to consider the alteration in the tissues of the inflamed parts. The first question that presents itself is, what effect does the exuded material have on the tissues which contain it? The answer to this question depends somewhat upon the character of the tissue affected, such as the structure and function of parts, whether the tissues are vascular or non-vascular. The vascular tissues include bone and the varieties of connective tissue, the non-vascular, cartilage, tendon, and the cornea.

Pathologists are substantially agreed on one thing, and that is, that although there may be great difference in the structure and function of the parts affected, all are of such a nature as to indicate increased activity of cell life under the stimulating influence of the effused material. The extent of effusion or exudation will vary with the kind of tissue inflamed. "In non-vascular tissues, as tendon, cartilage or cornea, exudation can occur only from neighboring vessels, hence effusion is found outside of the parts." In all dense organs, as liver, kidney and testicles, a large

amount of effusion cannot take place, and what little there is so blended with the textural elements that it is not apparent as a separate constituent, but simply causes swelling of the organ. Effusion is most prominent in tissues of loose texture, as lungs, serous and mucous membranes.

The increased activity of cell life is manifested by livelier amorphous movements in those which are usually active; and those which normally undergo no alteration in form and are usually inactive, become active, and send out processes in various forms. This activity is usually attended with protoplasmic growth, and by its division or endogenous development new cells are formed.

Now, although the earlier changes in inflamed tissues are those of increased growth and multiplication of cells, yet in the later stages of acute inflammation the changes are in the main characterized by impaired nutrition. These changes in the tissues vary with the character of the inflammation. They may be such as attend those of an intensely acute type, and end in suppuration or terminate in necrosis; or they may be such as attend those of a subacute or chronic character, in which new growth of connective tissue occupies a prominent place.

To follow these changes to their final results would require more time than I felt willing to devote to that purpose; and it would occupy more time in reading than any of you would be willing to devote to listening to it. To exhaust the subject of inflammation in all its details would require almost an interminable effort of even the most accomplished pathologist.

I feel, however, as if I ought not to drop the subject here without saying something about the destructive effects of inflammation. On this topic I propose to read to you the following paragraphs, reprinted from the article on the same subject which appeared in the former editions of Holmes' system of surgery. After pointing out that both for pathology and practice it is needful that the student recognize the reality of destructive changes as an essential part of inflammation, Mr. John Simon, who contributed the article, continues in this masterly strain:

"Let him examine inflamed muscle, as, for instance, in the post-mortem examination of a compound fracture, or of a recently

made structure easily giving microscopic elements; there is an almost complete absence of agglutination of the mixed, even in quantity before the then arranged longitudinally themselves into oil-drops and jets—the almost filling of connective tissue within which also itself and themselves more or less of a liquid

"And watching that gradual in proportion to the alteration of substance the place away.

"Let him observe the vertebral his finger, microscopic all larger than the material undergoes a change of calculation.

made stump. He will find the structure weakened, so that it easily gives way with pressure or traction; he will see under the microscope that the substance tends to fall into irregular fragments; that its natural striation is more or less replaced, first by an almost homogeneous appearance, and afterwards by an appearance of aggregated granules; that with these granules of albuminous matter into which the muscle has resolved itself, there is mixed, even from an early date in the inflammation, a noticeable quantity of minute oil-drops; that often these oil-drops appear before the disintegration of muscle has made much progress, and then arrange themselves in such mutual relation, transverse or longitudinal, as to suggest that the sarcous elements have changed themselves, particle by particle, into oil; that little by little the oil-drops multiply to such an extent as to be the chief visible objects—the limitary membrane of a fasciculus seeming now to be almost filled with finely-divided oil, diffused through some scanty connective albuminous material; that the limitary membrane within which the muscular material is thus emulsionized, tends also itself to undergo dissolution, and let its proceeds confuse themselves with the similar debris of neighboring fasciculi, till more or less bulk of muscle is reduced to a state of oleo-albuminous liquidity.

“And from this point, if the observer have opportunity of watching the changes which lead to convalescence, he will see that gradually the liquefied material diminishes in volume; that in proportion as it vanishes, the adjoining parts adapt themselves to the altered relation; that eventually only a scar-like puckering of substance—a kind of tendinous intersection—remains to mark the place where muscular material has irrecoverably melted away.

“Let him examine inflamed bone, as, for instance, in a carious vertebra. He will see that the structure breaks down under his finger, and offers scarcely any resistance to a knife; that the microscopical texture is rarefied—cancelli canals lacunae being all larger than natural, and the solid framework all scantier; that the material is tending to break into its component parts and to undergo changes which admit of its being removed by the circulation.

"In many cases (for example, under the irritant pressure of an aneurism), he will find that a quantity of bone has thus gone, leaving no trace behind—gone, of course, only after having first become liquid; and it appears that when bone is inflamed, the first step towards this disintegration consists in a breach of the ordinary union between the mineral and cartilaginous constituents, with a primary removal of the former and a chemical change of the latter. If there be discharge from the inflamed part, there will be found in it bits of bone, chemically and microscopically demonstrable.

"Let him examine inflamed nerve, as, for instance, near to where it has been cut in amputation. He will find, says Dr. Lent, the medullary cylinder of each nerve tube falling, as it were, by cross-cuts into irregular pieces—at first large, but as the process advances, getting smaller and rounder, and assuming the character of oil, till at last the tube membrane is filled with oily material, which gradually undergoes removal.

"Let him examine the hard textures of an acutely suppurating joint. He will find the strongest ligaments in course of being reduced to an incoherent state—either actually pulpy and half liquefied and in course of removal, or ready to break with the least traction; he will find, if the inflammation has been primarily synovial, that the cartilage is smoothly melting away at its surface into the fluid which bathes it; or, if the disease have begun subarticularly, that the cartilage, where subjacent to carious bone, is irregularly eroded and perforated; and throughout, with the microscope, he will find, wherever there are evidences of advancing disintegration, that the softening of material is abundantly marked with oil-drops.

"Let him—not in post-mortem examinations, for which there are no opportunities, but during life—observe the results of inflammation of the sclerotic, and ask himself why it is that staphyloma so often follows this disease. He will infer that here, as with other cases which we have considered, the inflammation must have so disorganized the texture, and so enfeebled its normal rigidity, that it can no longer give sufficient resistance to pressure from within, or save itself from being bulged by what

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"Above all, let him examine the products of inflammation furnished by mucous and serous membranes, and by glands; the expectorations of bronchitis, the hawkings of common throat catarrh, the urine of scarlatina, the acute effusion of serous cavities, and after death the inflamed organs themselves; let him once thoroughly recognize the destructive acts of inflammation, as illustrated in the simple cells of gland or epitheliated membrane, and the whole of this argument will be compendiously before him.

"He will find cells (especially when there are squamous) shed as dead material, without their first undergoing any visible alteration. He will find all others undergoing change in a more or less marked degree—change of which the essence consists in a loosening and eventually a disintegration of texture, with increased imbibability of fluid and gradual accumulation of oil, so that the cell, while undissolved, appears of larger than natural size, its wall less defined, its nucleus dimmer, its contents more granular and oily than in health. Sometimes a cell is thus converted into a mere heap of oil-drops, held together by little intervening or surrounding material; sometimes there will be more albuminous matter, perhaps in a granulated or dotted form; sometimes there will be more evident fluidity of contents; but in any case the cell, if retained within the body, tends to break up and contribute with its neighbors to the making of an oleo-albuminous fluid, in which there exists but scanty and evanescent remains of the original cell structure."

COLICS IN HORSES.

By MR. LAQUERRIERE.*

(Continued from page 115.)

FOURTH GROUP.—The diagnosis of colic due to worms is generally easy to fix, and is usually determined by the presence of the parasite, which then becomes rather a sign than a symptom.

* Translated from *La Presse Veterinaire*.

Other symptoms, however, such as the lean condition of the patient; the absence of the natural gloss of his coat; the length and staring of the hair; the pallor of the visible mucous membranes; irregularity of appetite; alternating diarrhœa and constipation, with other not easily defined maladies, all contribute to the formation of a decision.

Colics from poisoning differ, according to the toxic peculiarities of the ingested substances. A knowledge of the history of the case is here of the first importance. As to the intestinal stoppages produced by the retention of accumulations of stercoraceous matter, egagropilo or calculi, it is very difficult, if, indeed, it be not impossible, to clearly make them out. Stercoraceous obstention, as we have seen in some cases, may, however, be as readily diagnosed by rectal examination as the presence of other foreign bodies by this manipulation. Stercoraceous colics are generally violent and incessant, and allow no pause or rest to the sufferer. The animal is in most instances constantly stretching himself and making useless efforts to obtain relief; while at other times he appears to experience dull pains, increasing in force and of an intermittent character, and with a constant increase in their frequency. In the cases of egagropilo and calculi, the pains are also intermittent and dull, but there are deceitful remissions of several days' continuance, during which the patient appears really cured. During the accesses of pain the horse lies down very carefully and remains quiet for a long time, stretched on one side. But while on his feet he is constantly pawing and pushing his bedding under him with his fore feet. According to Reynal, this is a pathognomonic symptom of an accumulation of hardened fæces in the large cavities of the colon. With the exception of the vermicular variety, the prognosis in these colics is always serious.

FIFTH GROUP.—Displacements of intestinal organs are generally discovered only at the post-mortem. The diagnosis of some forms, however, is known, such as the inguinal and the diaphragmatic. Rectal explorations with external taxis may aid us in detecting the presence of a portion of intestine engaged in the inguinal canal. Auscultation and percussion of the chest, associated with the symptoms of asphyxia, may assist in the discovery of the

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diaphragmatic surface. Ventral hernia is easily recognized by its external character. Internal intestinal hernia can only be discovered by an autopsy. Valvulus and invaginations must be matter of conjecture, the proof of their existence being also found only at the autopsy. We have seen, however, some animals suffering from this cause, seeking to obtain some relief by laying on their backs, in a corner of a box stall, with all their extremities brought together and extended upwards. But this symptom has no special or positive signification, and is also observable in internal strangulations and in obstructions. Ruptures of the stomach and of the intestines are all, at times, presumable. Nausea and vomiting may be, and is, at times, though not in every case, followed by rupture of the stomach. Penetrating wounds may sometimes be rationally diagnosed by the presence of the external injuries. Intestinal wounds have occurred as the result of human brutality and cruelty, by the forcible introduction of sticks in the rectum. Rectal exploration will assist in the detection of the solution of continuity in these cases.

SIXTH GROUP.—The affections embraced in this group are little more than complications of those previously noted, and we can only say, in addition to what we have already remarked, that the prognosis is always serious, and that generally a positive diagnosis cannot be made, and all our conclusions must be merely conjectured and presumptive. In none of them is it unusual to witness paroxysms of fury and delirium of the severest character, as the result of the extreme and torturing pain suffered by the patient. The rupture of the stomach, or of the large intestines, may be recognized by the sudden relief, or even complete disappearance of the colics, while at the same time the general sickly condition of the animal either remains unaltered or manifests a tendency to increase. This increase will be marked by the weakening of the pulse; the gradual cooling of the body, and the explorable internal cavities a general, profuse, cold perspiration.

SEVENTH GROUP.—The diseases of this last group have, properly speaking, but a single point of resemblance, viz.: the colic, which is common to all. Their diagnosis properly belongs to the special pathology of the organs severally affected. To recapitu-

late, it must be conceded that there are genuine and serious difficulties in the way of the practitioner who would make a perfect diagnosis, since the pathognomonic symptoms in almost every case are absent. Yet, when in presence of a suffering animal, if the practitioner will bear in mind the data that he must possess in his anatomical and physiological knowledge, and will rapidly, though carefully, analyse the characteristics of the case before him, critically noticing and comparing the positive and negative symptoms, and then weigh the case in his mind and judge the acts in the light of similar other cases within his memory and observation, the experienced and judicious veterinarian may reasonable hope, in many cases, to reach a satisfactory and nearly accurate diagnosis. This, of course, is the important point to reach, in order to establish a proper theory and mode of treatment. It is not enough to relieve the sufferings of the tortured animal; to discover and reach the cause if possible, and to remove it and save the life of the patient—this is the work which the veterinarian must accomplish—"this is what he is for."

(To be continued.)

REPORTS OF CASES.

REMOVAL OF A LARGE MELANOTIC TUMOR FROM THE ANUS AND RECTUM OF A GELDING—RECOVERY—HISTORY.

By W. A. DIMOND, D.V.S., House Surgeon.

The subject of this operation was a gray gelding, fourteen years of age, belonging to a physician of Jersey City, which entered the hospital on May 11th, 1885.

About four years previous to this the animal had been operated upon at the hospital to remove a melanotic growth on the right side of anus, which was successful, the animal making a nice recovery, having been in good health and performed its work ever since. For the past year it has been observed that a tumor has been gradually appearing on the left side of the anus, until recently, having assumed proportions alarming to the owner, he was again sent here to be operated upon.

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Examination, on entering the hospital, showed the anus considerably deformed and protruding irregularly. There was found a large tumor on the left side of anus, which was irregular in shape, and bosselated upon its whole surface. There was also a number of small melanoma, varying in size from a pea to a walnut, along the tail from the base to the end.

On rectal examination, we found the tumor on the side of the anus extended into the pelvic cavity about four inches, and farther inward, as at the end of this, there was another tumor situated in the superior wall of the rectum. On manipulating this last tumor, it was found to be movable from forward backward, and in size about that of a man's fist. Immediately forward of this was another collection of small melanoma. On account of this condition operation was scarcely advisable, and, if successful, could at best be only palliative. The owner, however, decided to make an attempt, and according to his wishes the animal was operated on on the 18th.

Operation.—It was tried at first to operate with the animal standing, after having received a dose of chloral, but this being impossible, he was cast and secured. An incision was then made immediately under the base of the tail, downward, on the left side of the anus, about six inches in length, and the largest tumor was removed by tearing off the pelvic cellular tissue outside of the rectum; other smaller ones were removed in the same manner. The growth on the superior wall of the rectum was found to be between the muscular and mucous coats, was made to slide backwards by pushing toward the anus, and was removed by cutting through the mucous membrane. At that stage of the operation an effort of traction to enucleate the tumor was followed by a laceration of the rectum, and the left margin of the anus. The two large masses of melanotes weighed four pounds and a half.

The wound was carefully washed and dressed with oakum, and the edges brought together by single suture.

On the following day the oakum was removed from the cavity, which was irrigated with cold water, the surrounding parts washed, and the tail bandaged; pulse and temperature normal; no appetite; had passed some soft fœces during the night. On

the second day the parts began to swell, the stitches of the lower part of wound began to break away; temperature, 102; no appetite; same treatment of cold water irrigation, with injections of solution carbolic acid. On the third day the swelling was still increased around the anus, the mucous membrane of the rectum was swollen and infiltrated; no appetite; pulse and temperature about normal; same treatment; the introduction of the hand into the rectum was very painful; the removal of the fœces was accompanied by violent and expulsive efforts. On the fourth day the swelling was still more increased, the appetite was a little improved; temperature and pulse normal; same treatment; fœces removed several times during the day. On the fifth day there was no change. On the sixth day the sutures had all broken away, leaving a large open wound. On the seventh and eighth days the patient remained about the same, with a slight increase of appetite; same treatment. On the ninth day the patient began to pass fœces quite freely, the swelling began to decrease; temperature and pulse normal; appetite fair; same treatment. About the twelfth day after the operation the parts resumed their normal size; the fœces was passed regularly, the animal eating well, with all functions normal, and has remained in the same condition up to the present writing, the wound being in a healthy condition, discharging very little pus, the same treatment of cold water irrigation being continued ever since, and the animal sent home almost entirely healed.

EXTRACTS FROM GERMAN JOURNALS.

COLIC IN HORSES.

Lemeke, in almost all cases of colic, made, first, a subcutaneous injection of morphia, and in extreme cases followed this with other remedies. He believes that this system of treatment has always been accompanied with the most satisfactory results, provided that no homœopathic doses of morphine are given. One to three decigrams have but little effect. For a small horse four, and for a large one five to six decigrams would be required. He

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assures us that he has never seen any bad effects from this manner of administration, nor has he observed in the large number of cases he has treated any accident. Should any occur, then it is evident some mistake has been made in the dispensing of the drug. Adam generally injects a few litres of fresh water into the rectum. The effect, he says, is surprising, the pains generally cease in a very short time, and, in most cases, recovery begins without other remedies being required. Having made these observations, he no longer administers morphia, but generally uses cold water injections per rectum, according to the size of the animal, from four to six litres. The rubber hose used in this treatment does not have a wooden or tin nozzle, and is passed into the rectum, as far as eighteen inches or more, which is generally, in most cases, easily done, if the hose is stiff enough so as to prevent doubling on itself. He regulates, with as much ease as possible, the inflowing of the water, so as to prevent its return, and for this reason he orders the funnel to be held as high as a little above the back. It is seldom necessary to repeat the injection. The use of drugs is proper when by peculiar symptoms indicated, but only in exceptional and long continued cases. The patient, in case of chill, is to be dashed with a mixture of equal parts of spirits turpentine and spirits of camphor, which, being rubbed in with a wisp of straw, the animal is covered up with a woollen blanket. The patient is allowed to lay down on a good bed. Leading or driving in the open air is to be practised only in exceptional cases.—*Repertorium der Thierheilkunde*.

INFLUENCE OF FLOORING.

Ulich found that the cause of rheumatism in horses and cattle is generally to be sought for in the construction of stables, and especially of the floors. In stables where the floors are of impervious material, such as beton, asphalt, brick, stone, etc., inlaid with cement, cases of rheumatism are less frequent and yield more readily to treatment, because such floors are more easily kept dry and warm by means of a thick layer of sawdust with straw on top. But in such stables, where wooden planks lie

on sleepers or ridged and cemented earth, draughts cannot be avoided, even with the best bedding, especially in cold weather, and therefore attacks of rheumatism are more frequent and severe, yield less readily to treatment, and are more subject to relapse. Besides, the air found in such stables is less pure than in those with impervious floors and surface drainage, as these can be readily cleansed of filth by washing off before it decomposes. —*Ibid.*

SANITARY LEGISLATION.

ACTS RELATING TO CONTAGIOUS DISEASES OF ANIMALS IN COLORADO.

AN ACT to Prevent and Suppress Infectious and Contagious Disease among the Domestic Animals of this State, and for the Appointment of the Necessary Officers to Carry Into Effect the same, and to Fix Compensation.

Be it enacted by the General Assembly of the State of Colorado :

SECTION 1. The office of State Veterinary Surgeon is hereby created.

SEC. 2. Immediately upon the passage of this act the Governor shall appoint to the office of State Veterinary Surgeon the person elected by the State Board of Agriculture as the Professor of Veterinary Science, and holding the chair of Veterinary Science in the State Agricultural College.

SEC. 3. The person so appointed shall hold his office for the term of two years from the date of his appointment, provided such person is not deposed during such term by the State Board of Agriculture from his position in the State Agricultural College.

SEC. 4. The person so appointed as State Veterinary Surgeon shall, before he enters upon the duties of his office, take and subscribe to an oath to faithfully and impartially discharge the duties of his office, and give a bond running to the people of the State of Colorado, in the sum of ten thousand dollars (\$10,000), with good and sufficient sureties, for the faithful performance of his

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duties. Such bond to be approved by the Governor, and together with the oath of office to be filed in the office of the Secretary of State.

SEC. 5. In case the person holding the office of State Veterinary Surgeon shall be deposed by the State Board of Agriculture from the chair of Veterinary Science in the State Agricultural College, or a vacancy occur from any cause, then his term of office shall thereupon expire, and the person selected by the State Board of Agriculture to fill the vacancy of the chair of Veterinary Science in the State Agricultural College shall be appointed by the Governor to fill the unexpired term. Such person so appointed to fill the unexpired term shall take oath, and give bond as provided in Section 4 of this act.

SEC. 6. There is hereby created a State Veterinary Sanitary Board, such Board to be comprised of three members, namely: The State Veterinary Surgeon and two other members, to be appointed by the Governor, by and with the advice and consent of the Senate. Such persons so appointed shall hold their office for the term of two years.

SEC. 7. The State Veterinary Sanitary Board shall have stated meetings annually, to be held at the State Capitol, but may have called meetings at such times and places as may be deemed necessary, the Chairman calling the same.

SEC. 8. It shall be the duty of the State Veterinary Surgeon to investigate any or all cases of contagious or infectious diseases among the domestic animals of the State which may come to his knowledge, and for that purpose he shall visit at once any locality within the State, where any such disease may be reported to exist, and make full and careful examination of all or any animals in that locality. He shall also prescribe the proper care and necessary remedies, inaugurate and direct the necessary sanitary measures to prevent the spread of such disease, and report the same to the State Veterinary Sanitary Board. He shall also make a scientific study and investigation of all diseases of domestic animals, and report the result of his study and investigation to the State Sanitary Board, and shall publish from time to time bulletins for the benefit of the people of the State, and

in connection with the State Veterinary Sanitary Board, embody the same in a yearly report, which, with the proceedings of the Board, shall be published in connection with the annual report of the State Board of Agriculture.

The State Veterinary Surgeon shall also perform such other and further duties as may be prescribed by law, or formulated under the State Veterinary Sanitary Board.

SEC. 9. It shall be the duty of the State Veterinary Sanitary Board to adopt such quarantine regulations as are deemed necessary to prevent the introduction or spread of Texas or splenic fever, contagious pleuro-pneumonia, or any other contagious or infectious disease, affecting domestic animals, under such regulations as shall be prescribed by law.

SEC. 10. The State Veterinary Sanitary Board shall have power to order the destruction of stock in order to prevent the spread of disease or to crush out such disease, when deemed necessary by such Board for the public safety. *Provided*, however, no stock shall be killed on account of its being affected by Texas or splenic fever.

SEC. 11. Whenever the State Veterinary Sanitary Board decide that it becomes necessary to condemn stock and order the same killed, and so decide, it shall be their duty to convene a board of three appraisers, such board to be selected, one member by the State Veterinary Sanitary Board, one by the owner or owners of the condemned stock, and a third by agreement of the two previously selected. When convened, it shall be the duty of such appraisers to certify under oath to the value of the stock so condemned. *Provided*, that no animal shall be condemned and ordered killed unless it showed decided symptoms of a contagious disease, and in making an appraisal of the value the appraisers should take into consideration the diseased condition of the animal.

SEC. 12. When any live stock shall have been appraised, as herein provided, and killed by the order of the State Veterinary Sanitary Board, such Board shall issue under its seal to the owner or owners of the live stock so killed, a certificate showing the number and kind of animals so killed, and not to exceed in value one

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thousand (\$1,000) dollars in any one year, and the amount of money to which the holder is entitled by reason of the appraisal heretofore mentioned, and report the same to the Auditor of State. Upon presentation of such certificate to the State Auditor he shall draw his warrant on the State Treasurer for the amount therein stated; provided that the provisions of this section shall not apply to any animal or animals that shall be proved to have been in a diseased condition when brought into this State, or have been brought into the State contrary to any law of the State, or any rule or rules adopted by the State Veterinary Sanitary Board.

SEC. 13. The State Veterinary Sanitary Board shall have power to employ at the expense of the State, such persons, and purchase such supplies and material as may be necessary to carry into effect all orders by it given; *Provided*, that no labor shall be employed, material or supplies purchased by the Board, except such additional labor, material and supplies as may be necessary to carry into effect quarantine regulations as prescribed by the State Veterinary Sanitary Board.

SEC. 14. Whenever the State Veterinary Sanitary Board shall have good reason to believe that any contagious or infectious disease exists in any locality in other States, Territories or countries, or that there are conditions which render domestic animals from such infectious districts liable to convey such disease, they shall report the same to the Governor of the State. Thereupon the Governor shall, by proclamation, prohibit the importation of any live stock of the kind diseased into the State, unless accompanied by a certificate of health given by the State Veterinary Sanitary Board, who shall carefully examine all such live stock previous to the giving of such certificate. All expense connected with such examination to be paid by the owner or owners of such live stock so examined.

SEC. 15. Whenever it is deemed necessary by the State Veterinary Sanitary Board to supervise and inspect any of the lines of transportation in this State, and the stock yards connected with the same, suitable inspectors shall be appointed, such as the Board shall direct, and these shall be paid by the corporation or

corporations, or individual in charge of such lines of transportation and stock yards. Any such corporation, corporations or individual owning or operating such lines of transportation or stock yards shall conform promptly to all regulations made by the said State Veterinary Sanitary Board, of which they shall have notice from such Board.

SEC. 16. The State Veterinary Sanitary Board shall have the power to call upon all Sheriffs, Deputy Sheriffs or Constables to execute their orders, and such officers shall obey the orders of the Board. The officers performing such duties shall receive compensation therefor as is prescribed by law for like services, to be paid as other expenses of said Board as herein provided, and any officer may arrest on view and take before any magistrate of any county any person found violating the provisions of this act, or the rules or regulations adopted by the State Veterinary Sanitary Board, and such officer shall immediately notify the District Attorney of such arrest, who shall prosecute the person so offending according to law.

SEC. 17. Any person or corporation who shall violate, disregard or evade, or attempt to violate, disregard or evade any provision of this act or any of the rules, regulations, orders or directions of the State Veterinary Sanitary Board made in pursuance of their official duties, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in the sum of not less than one hundred dollars and not more than five thousand dollars, or imprisonment in the county jail not less than three months nor more than two years, or by both such fine and imprisonment.

SEC. 18. Each member of the State Veterinary Sanitary Board shall receive the actual necessary traveling expenses incurred in the discharge of the duties of this Board.

SEC. 19. The State Veterinary Surgeon shall be paid an annual salary of \$2,500, to be paid quarterly out of the State Treasury on order drawn by State Auditor, and he shall receive no other or further compensation from the State or State Board of Agriculture.

SEC. 20. For the purpose of this act the members of the State Veterinary Sanitary Board are authorized and empowered to ad-

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minister oaths and affirmations, and they are further empowered to question individuals or agents or corporations under oath, for the purpose of eliciting information to be used before the Board in the furtherance of its duties.

SEC. 21. Inasmuch as the public interest requires that this act should take effect at once, an emergency exists requiring this act to take effect immediately. Therefore, this act shall take effect and be in force from and after its passage.

AN ACT—To prevent the introduction of infectious and contagious diseases among the cattle and horses of this State.

Whereas, There is prevalent among cattle and horses stock in the States and Territories south of the 36° parallel of north latitude certain infectious and contagious diseases known as the Texas, or splenic fever, Spanish itch, and other diseases of a dangerous and contagious nature, and

Whereas, It is essential for the protection of the cattle and horses of Colorado to prevent the introduction and spread of all such diseases within this State; therefore,

Be it enacted by the General Assembly of this State of Colorado :

SECTION 1. It shall be unlawful for any person, association or corporation to bring or drive, or cause to be brought or driven into this State, any cattle or horses having an infectious or contagious disease, or which have been herded or brought into contact with any other cattle or horses laboring under such disease, at any time within ninety days prior to their importation into this State.

SEC. 2. It shall be unlawful for any person, association or corporation to bring or drive, or cause to be brought or driven, into this State between the first day of April and the first day of November, any cattle or horses from a State, Territory or country south of the 36° parallel of north latitude, unless said cattle or horses have been held at some place north of the said parallel of latitude for a period of at least ninety days prior to their importation into this State, or unless the person, association or corpora-

tion owning or having charge of such cattle or horses shall procure from the State Veterinary Sanitary Board a certificate or bill of health to the effect that said cattle or horses are free from all infections and contagious diseases, and have not been exposed at any time within ninety days prior thereto to any of said diseases.

SEC. 3. Any person violating the provisions of this act shall be deemed guilty of a misdemeanor, and shall, on conviction, be punished by a fine of not less than five hundred dollars (\$500), or more than five thousand dollars (\$5,000), or by imprisonment in the county jail for a term of not less than six months and not exceeding three years, or by both such fine and imprisonment.

SEC. 4. If any person, association or corporation shall bring or cause to be brought into this State any cattle or horses in violation of the provision of Section 1 or 2 of this act, or shall by false representation procure a certificate of health as provided for in Section 2 of this act, he or they shall be liable, in all cases, for all damages sustained on account of disease communicated by or from said cattle or horses; judgment for damages in any such cases, together with the costs of action, shall be a lien upon all such cattle and horses, and a writ of attachment may issue in the first instance without the giving of a bond, and the Court rendering such judgment may order the sale of said cattle or horses, or so many thereof as may be necessary to satisfy said judgment and costs. Such sale shall be conducted as other sales under execution.

SEC. 5. Inasmuch as the public interest requires that this act should take effect at once, therefore an emergency exists, and this act shall take effect and be in force from and after its passage.

REVIEWS.

URINARY AND RENAL DISORDERS, by LIONEL S. BEALE, M.D. (P. Blakiston, Son & Co., Philadelphia.)

This is an excellent work, which the veterinarian will do well to read and study. While many points in its pages will be of more advantage to the human physician, the veterinary prac-

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tioner will find in it facts that he cannot obtain in our English veterinary literature, so poor on the subject of the diseases of the urinary apparatus. The name of the author is so well known to all readers of medical works, that its authority on urinary and renal disorders is sufficient guarantee of the quality of the book.

L'HYDROTHERAPIE APPLIQUE AUX ANIMAUX DOMESTIQUES, by
P. HARTENSTEIN.

The object of this large pamphlet is to bring before the veterinary profession the advantages to be derived by the application of hydrotharapy in the treatment of the diseases of domestic animals. After giving the history of this mode of treatment, the author relates a number of cases in which his application has been followed by excellent results. In the treatment of fevers, . . of parturient apoplexy principally, of paraplegia after delivery, of prolapsus of the uterus, of the rectum in acute metritis, of acute mammitis, of essential and symptomatic vertigo, of intestinal paralysis, etc., etc., the author shows the successes he has obtained, as well as in cases of wounds in general, of articular diseases, and even in the treatment of the *cœnurus coubralis* of the horse and of sheep.

OUR REGISTER OF REGULAR GRADUATES.

ALUMNI OF THE CHICAGO VETERINARY COLLEGE.

From the prospectus of the Chicago Veterinary College we extract the following list of the first graduates of that institution

T. L. Armstrong.....	Indianapolis, Ind.
S. S. Baker.....	Chicago, Ill.
J. Bond.....	Streator, Ill.
A. Dean.....	Girard, Mich.
J. Y. Lehman.....	Sterling, Ill.
W. V. Niles.....	Charleston, Ill.
P. Quitman.....	Chicago, Ill.
J. S. Spangler.....	Plainfield, Ill.
B. E. Stauffer.....	Wakarusa, Ind.
A. Ziegler.....	Lincoln, Ill.

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of the New York State Veterinary Society was held at the Clarendon Hotel, Brooklyn, on Tuesday, June 9th. The President, Dr. R. A. McLean, in the chair.

Members present were: Drs. Robertson, L. McLean, Burden, Liautard, Berns, Boyd, C. C. Cattnach, Dixon, Berget, J. S. Cattnach, Birdsall, Bretherton, Field, Hollingsworth, Dimond, Johnson, Henshaw, Mustoe, R. A. McLean, Pendry, Newman, Waters and Yokura. Dr. Miller, President New Jersey State Veterinary Society, and the Hon. George F. Elliott, of the Brooklyn Board of Health, among others, were present on invitation.

Minutes of the last meeting were read, and on motion adopted.

After those present had examined the interesting pathological collection brought to the meeting by Dr. L. McLean, a paper on "Railroad horses, their selection, management, some of their diseases and treatment," by Dr. R. Kay, was read by Dr. C. C. Cattnach. The paper was a lengthy one, and presented many points for discussion, and in view of this fact, and the essayist not being present to defend them, it was on motion, laid over for discussion to the next meeting.

Dr. L. McLean then read a paper on the "Veterinarian as a Sanitarian," in which he strongly demonstrated where the veterinarian was a necessary requisite to all Health Boards.

After the Chair had presented the paper for discussion, Dr. Liautard, during his remarks on the subject, said he regretted that it was not more fully discussed, it was one of very great importance both to the laity and our profession. He was pleased to pay a just tribute to the city of Brooklyn, and he regretted to say that it was ahead of his own city, that of New York, which had not yet thought proper to recognize the veterinarian as a sanitarian. Brooklyn and Newark, N. J., were the only two cities where the profession were recognized by the Board of Health.

On the invitation of the Chair, the Hon. George F. Elliott addressed the meeting as to the rules laid down by the Brooklyn Board of Health, during which he paid a high compliment to its inspector, Dr. L. McLean, and contended that all Health Boards should engage the service of a veterinarian.

Dr. L. McLean contended that the medical gentlemen who were called upon to act as milk inspectors, knew nothing whatever about the diseases of the animal that gave the milk, although they could easily tell if there was much water in it, and that was about all they could tell.

After some further discussion, it was moved and seconded that the Society urge the Board of Health of New York City to give proper recognition to the veterinarian as a sanitarian on its Board. After some discussion as to drawing the attention of the authorities of that city to the frequency of glanders, and also of laying the subject before the State Board of Health, it was finally carried so as to deal with milk and meat inspectors in New York City. During the discussion on the subject, Dr. Miller said he certainly objected to throwing away milk be-

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cause it had a little water in it. Dr. Dixon stated that he knew it to be a fact, that diseased meat was slaughtered and sold for food in Hoboken, N. J. The Chair informed the meeting that he knew of a herd of ninety head of Alderneys, whose butter was sold in the New York markets at a premium, that had for the last three or four years been affected with tuberculosis, so that during that time, three or four had died each year from that disease.

The Chairman of the Board of Censors presented an agreement, properly drawn up for signature, so as to communicate the amalgamation of the New York State Veterinary Association with the New York State Veterinary Society, in accordance with the resolution passed. On motion, the same was accepted, and officers ordered to sign the same. They reported in favor of the application for membership of Wm. H. McCaldon, M.R.C.V.S., Brooklyn, and of J. H. McMartin, V.S., Utica, N. Y. Both reports were duly received, and an election was ordered, which resulted in the two gentlemen being duly elected to membership.

Before putting the motion to adjourn, the Chair, on behalf of those members who resided in Brooklyn, invited all present to adjourn to the supper table, where was ended, in a most enjoyable manner, one of the best meetings of the Society.

W. H. PENDRY, D.V.S., *Secretary*.

WISCONSIN STATE VETERINARY MEDICAL ASSOCIATION.

The Wisconsin State Veterinary Medical Association held its fifth semi-annual meeting in the parlors of the Kirby House, Milwaukee, Wis., May 5, 1885.

The Association was called to order by the President, Dr. V. T. Atkinson. On calling the roll, nine members answered to their names, and four applicants for membership were present.

The minutes of the last meeting were read and approved.

Next in order being election of officers, Dr. V. T. Atkinson of Milwaukee, was re-elected President; E. R. Evans, V.S., of Racine, 1st Vice-President; E. R. Horn, V.S., of Whitewater, 2d Vice-President; C. H. Ormond, V.S., of Milwaukee, 3d Vice-President; E. W. Rowland, D.V.S., of Monroe, Corresponding and Recording Secretary; J. Q. Smith, V.S., of Madison, Treasurer. Board of Censors: C. Evans, D.V.S., of Racine, Chairman; C. H. Ormond, V.S., of Milwaukee; J. Senti, V.S., of Milwaukee; E. W. Rowland, D.V.S., of Monroe, member of Board of Censors *pro tem*.

Board of Censors reported favorably on one applicant, C. A. Woodford, V.S., of Madison.

E. R. Horn, of Whitewater; C. A. Woodford, of Madison; B. F. Holmes, of La Crosse; E. W. Rowland, of Monroe, were appointed to prepare essays to be read at the next meeting.

Dr. W. M. Ormond moved we adjourn to meet in Madison, on Thursday of the week of the State Fair. Dr. Horn seconded Dr. Ormond's motion. Association adjourned.

E. W. ROWLAND, D.V.S., *Secretary*.

OHIO STATE VETERINARY MEDICAL ASSOCIATION.

The Ohio State Veterinary Medical Association held its semi-annual meeting in the parlors of the Grand Hotel, Cincinnati, June 2d and 3d.

Tuesday evening session was called to order at 8:30 p.m., by the President, J. W. Newton, of Toledo. After a few remarks he called on the secretary to call the roll, when the following gentlemen answered to their names: J. V. Newton, Toledo; T. B. Cotton, Mount Vernon; T. B. Hillock, Columbus; W. E. Wright, Delaware; W. A. Labron, Xenia; L. A. Severcool, Norwalk; P. D. Younkerman, Cleveland; J. Charleswoanten, Springfield; J. S. Butler, Piqua; G. W. Butler, Circleville; A. Smith, Pleasant Hill; J. C. Myers, Jr., J. C. Myers, Sr., Cincinnati; J. M. Wardell, Columbus. Visitors, Dr. Morice, V.S., New Orleans; A. Frazer, President of Society of Prevention of Cruelty to Animals, and Oscar B. Toddhunter, Secretary of same; Dr. Devou, of Ripley, Ohio; and Dr. Logan, of Bellfontaine.

Minutes of the previous meeting were read and approved.

Two new members were proposed, Drs. Devou of Ripley, Ohio, and Dr. Logan, of Bellfontaine. Being graduates they were admitted to membership.

Moved and seconded that the case of Dr. John Rose, of Columbus, be disposed of as coming under the head of unfinished business. Moved and seconded that John Rose be expelled from the Ohio State Veterinary Association for not attending its meetings. Motion put to a vote and carried.

Dr. Myers, Jr., of Cincinnati, then read a very interesting paper on Osteo Porosis, known as Big Head. After considerable discussion of the paper it was moved and seconded that Dr. Myers be tendered a vote of thanks for his valuable paper, and that it be sent to the *Review* for publication, and a copy sent to each member of this Association.

Dr. Hillock spoke of three cases of spinal meningitis which came under his notice. Dr. Smith also related a case of torsion of the uterus in a cow. Post-mortem examination proved his diagnosis to be correct.

Moved and seconded that the meeting adjourn to meet Wednesday morning at 8:30.

Wednesday morning 8:30, meeting was called to order, President Newton in the chair. President spoke in regard to the Society of Prevention of Cruelty to Animals, and thought that they had done a great deal of good, referring to the street car horses, and the improvement in their condition.

Mr. Frazer, President of the Society of Prevention of Cruelty to Animals, made a few remarks in behalf of their association, afterwards tendering all present a cordial invitation to their headquarters.

Secretary Toddhunter read a very interesting paper, giving some of the brutality practiced on animals, and hoped the day is not far distant when anaesthetics will be used in all operations as in human surgery.

A vote of thanks was then tendered the gentlemen. Mr. Toddhunter then presented each member with a copy of their constitution and by-laws.

Dr. J. S. Button then read a lengthy paper on pleuro-pneumonia contagiosa. A short discussion followed its reading.

Moved and seconded that a vote of thanks be tendered Dr. Button for his

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valuable paper, and also that a copy of the same be sent to each member at the expense of the Association.

Moved and seconded that a vote of thanks be tendered Drs. Myers for their kindness in securing a suitable place for meeting.

Moved and seconded that the meeting adjourn to meet again in Columbus during the week of the coming State Fair.

J. M. WADDELL, *Secretary*.

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular monthly meeting of this Association was held at the Massasoit House, Springfield, Mass., Friday evening, May 1st.

President Billings occupied the chair, and there were present: Drs. M. Bunker of Newton; J. E. Gardner of Greenfield; F. H. Osgood of Springfield; J. S. Saunders and L. H. Howard of Boston; J. F. Winchester of Lawrence, and Chas. Winslow of Rockland; also, as invited guests, P. L. LeB. Stickney, M.D., and W. W. Gardner, M.D., of Springfield; Dr. A. R. Rice, Chairman Board of Health of Springfield; Dr. Forrest of Rockland; Dr. Thomas Bland, Secretary Connecticut Veterinary Medical Society; Mr. W. H. Wilkinson, of the "Brightside Farm," Holyoke; Messrs. Myrick of New England *Homestead*; Lyman of Springfield *Republican*; and Geddings of Springfield *Union*.

The record of the previous meeting was read and accepted, and the general order of business was omitted to listen to a paper by Dr. Billings:

PART I.—STATE MEDICINE.

Designating the system of State Medicine as the "great life saving service" of the country, he divides it into three portions: 1—The Educational division, represented by our medical institutions. 2—The Hygienic division, represented by our Boards of Health. 3—The Practical division, represented by our practitioners.

He first called attention to the educational part of the system as being the foundation of the other parts, the work of the schools being the education of the *scientist* as well as of the practitioner; regretting, however, that *our* schools do not fulfill these requirements; that American schools give more attention to the practical part of the science, than to investigation; the latter being left to the Continental schools.

This condition he thought to be due: *First*, to the fact that we have no schools supported and regulated by the State, but being *endowed* they cannot be entirely independent in the selection of teachers, and they are often not selected for ability alone. *Second*, by the chartering of so many schools, a spirit of competition between them arises, which interferes with their usefulness.

The speculative schools he thought ought to be condemned, as being as a rule, unscrupulous and of no responsibility. The proper results in his opinion, are only to be obtained by a National school system.

In regard to the hygienic portion of State medicine, the essayist drew attention to the fact that we have no well organized public health and sanitary police system; no well qualified State officer for the inspection of meat, milk, or the

dairies; no State method for the gathering of useful statistics; and no State laboratory for investigation; *all* of which ought to be in existence as a part of our public health system.

He attributed our condition in this matter to our English inheritance, as in Great Britain they have no organized system of State medicine, and there and here only do we find endowed schools and "subscription plans."

As to the *practical* portion of State medicine, he earnestly advocated the regulation of the practice of medicine by law, each practitioner to be required to pass an examination before a Board of competent examiners.

In conclusion the essayist called attention to the great importance of this subject, that "public *health* is public *wealth*," and remarked how seriously a visitation of rinderpest or cholera for example, would affect the Nation's prosperity, and earnestly advocated a radical change in our system of State medicine, that such calamities may the more certainly be avoided.

PART II.—Koch's METHOD OF BACTERIA CULTIVATION.

This was a very interesting description and illustration by Dr. Billings of Koch's process of cultivating bacteria.

He first gave us a brief history of the life and work of Koch, and then went on to describe, first, the preparation of the media for the cultivations. On the table before him was all the laboratory apparatus necessary for complete illustration, and a hundred test tubes containing cultivations of different ages, both of Koch's comma bacillus, and that of the genuine Asiatic cholera.

He described how the media were made from gelatin, chopped lean meat, peptone and salt, together with a species of Iceland moss, which renders the media solid; he then showed how the bacteria were developed in glass chambers, and next went through the *modus operandi* of inoculating the gelatin.

By means of different cultivations he showed how the different bacilli could be recognized, simply by their method of development in the media, cultivations only twenty-four hours old of the bacilli of cholera morbus and Asiatic cholera being easily differentiated; showing of what great diagnostic value these methods of bacteria cultivation may become.

All present were very much interested, and at the conclusion of Dr. Billings' remarks a unanimous vote of thanks was tendered him.

Dr. Stickney of Springfield, said he had been very much interested, both in the paper on State medicine, and in the practical illustration of bacteria cultivation, and thought that the address on the former subject ought to be published broadcast.

He also thought that veterinary medicine ought to be more fully recognized, and he was ready, as a practitioner in the department of human medicine, to extend to it the right hand of fellowship; appreciating *fully* how its investigations and results can assist those in the other branch of the same great science.

Dr. A. R. Rice, Chairman Springfield Board of Health, said that he wished to indorse the remarks of Dr. Stickney, and to compliment highly the paper on State medicine. He remarked that he was ashamed of the State of Massachusetts not having a law to regulate the practice of medicine, becoming, as it is, the "Botany Bay" for charlatans and quacks.

Drs. Gardner, of Springfield, and Forrest, of Rockland, and Dr. Bland, also

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remarked upon the great importance of this subject, and complimented very highly the essayist's presentation of it.

Dr. Bunker showed a pathological specimen—cedema of the glottis in a cow.

The glottis was entirely closed, the cellular tissue all about being filled with serum (a dropsical condition), larynx somewhat inflamed. The symptoms were sudden in their development, respiration becoming rapidly hurried and short, tracheotomy not performed, because animal was destroyed for the butcher at end of twelve hours.

The company adjourning to the banquet hall, the next two hours were spent at dinner, following which we listened to after-dinner speeches by the different members and their guests.

The meeting was subsequently called to order, and an executive committee *pro tem.* was appointed to transact some necessary business, none of the members of that committee being present.

Quite a discussion took place in regard to the "subscription plan" as pursued by veterinary institutions in general, and by Harvard Veterinary School in particular.

It seemed to be the general opinion that it was unjust to the practitioner, and derogatory and detrimental to the best interests of the profession.

On motion of Dr. Howard, it was unanimously *voted*, That a committee of three be appointed by the Chair to prepare resolutions censuring the system, reporting at next meeting.

The Chair appointed as that committee Drs. Sanders, Bunker and Howard.

The President appointed as the next essayist Dr. Alderman, to be followed by Dr. Bryden.

A unanimous vote of thanks was extended to Dr. Osgood, of Springfield, for his courteous attention to the association while in his city.

No other business coming before the meeting it was adjourned, all present expressing the opinion that the meeting had been a very enjoyable one, and fraught with a great deal of good to our association. It was regretted, however, that so many of our members found it impossible to be present.

L. H. HOWARD, *Secretary*.

NEWS AND SUNDRIES.

SALTING HAY.—According to Ulich, farmers in some parts of Germany practice this method of storing hay, strewing the salt between the different layers, about two quarts for each ton. By this means it will keep if not entirely cured, and will not become musty. Also, hay of inferior quality would be readily eaten and digested by cattle.—*Repertorium der Thierheilkunde*.

MORPHINE FOR A HORSE.—The *Western Medical Reporter* says that a grocer who had an aged and disabled horse wished to get

rid of him by as painless a death as possible, and gave him forty grains of morphine. Having made preparations for the funeral, the grocer proceeded to the stable, where, to his astonishment, he found the horse in excellent spirits and eating his oats with his former habitual haste, so as to be ready for the early trip to market. Opium is said to have been used successfully in India for many years in relieving horses from the consequences of old age and overwork.

PLEURO-PNEUMONIA IN GREAT BRITAIN.—Prof. Brown, the veterinarian of the British Privy Council, has prepared his report upon contagious diseases among farm stock in the United Kingdom, and in conclusion, this is what he says about pleuro-pneumonia, which, we regret to say, has more than a passing interest for us at this time: "Pleuro-pneumonia might, under existing circumstances, be extinguished if local authorities would adopt one of two courses, either slaughter all the cattle in a herd as soon as the disease appears; or, in cases where slaughter is inexpedient, allow the premises to continue an infected place until the animals were in a fit condition for the butcher. It is hardly necessary to remark that these measures, to be effectual, must be enforced all over the kingdom. It is not probable that Great Britain will succeed in eradicating the disease so long as it exists in Ireland, from which we draw our chief supplies of store stock."—*National Live Stock Journal*.

PLEURO-PNEUMONIA IN THE WEST.—*The Ohio Farmer* says that "the excitement over pleuro-pneumonia in the West is subsiding, and the strict quarantine regulations adopted by certain States are being relaxed. Illinois now admits all cattle from Missouri upon *official certificate of health*. Next in order will be some new outbreak in some heretofore unsuspected quarter and another *great excitement*."

EXCHANGES, ETC., RECEIVED.

FOREIGN.—Veterinarian, Veterinary Journal, Annales de Medecine Veterinaria, Clinica Veterinaria, Recueil de Medecine Veterinaire, Presse Veterinaire,

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Echo Veterinaire, Gazette Medicale, Revue d'Hygiene, Revue fur Thierhielkunde und Thierzucht, Journal Zootechnie.

HOME.—American Farmer, Country Gentleman, Prairie Farmer, Medical Record, Medical Herald, Farmers' Review, Breeders' Gazette, College and Clinical Record, American Agriculturist, Maine Farmer, Science, Home and Farm, Turf, Field and Farm, Spirit of the Times, National Live Stock Journal, Home Farm, Practical Farmer, Druggist Circular, Ohio Farmer, Scientific American, Iowa Farmer.

CATALOGUES.—The Atlanta Medical and Surgical Catalogue, Third Annual Rhode Island Registration Report, Catalogue of Chicago Veterinary College, Catalogue of Montreal Veterinary College, Register of Cornell University, '84 and '85.

NEWSPAPERS.—Journal of National Stockman, Photographic Times, Western Rural, N. Y. Weekly Times, News and Weekly Journal, Commercial News, Howard's Dairyman, Indiana Medical Journal, The Advance, American Cattle Breeder, Albany Express, The National Stockman, Health and Home, Journal of Accidents, Kansas City Journal, St. Louis Critic, Chenoa Gazette, The Polyclinic, The Rural Home, The Canadian Breeder, Massachusetts Agriculturist, Drovers' Journal, Washington Chronicle, Arkansas Gazette, Wallace's Monthly, Farm and Garden, Home Journal, Eastern Medical Journal, Western Reporter, Dairy World, American Sheep Breeders' Gazette, Democratic Leader, Philadelphia Times, Northwestern Live Stock Journal, Home Farmer, Farm and Fireside, Home Companion, American Poultry Journal, Farmers' Call, Western Plowman, The Medical Chronicle, American Garden, Therapeutic Gazette, Northampton Democrat, Mirror Farmer, Our Country Home, Indiana Farmer, Northwestern Tourist, Western Sportsman, Farm Implement, Dunton Spirit of the Turf, Poultry Keeper, U. S. Dairyman, State Grange News, American Farmer and Garden News, Bee Keepers' Guide, Home Journal, Farmers' Friend, National Farmer, Farmers' Economist, Shepard National Journal, Grange Visitor, Rural Home, Michigan News, North Pacific Rural, Spirit, Fruit Grower, Rural Californian, Nebraska Farmer, Kansas Agriculturist, Brooklyn Daily Eagle, Brooklyn Daily Times, Brooklyn Daily Union.

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As we go to press on the 20th of the month, papers for publication ought to reach us before or on that date.

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